

REMARKS

Drawings

The Examiner objects to the drawings for failure to show the slide way 2 as described in the specification. The Examiner's attention is directed to Figure 3 which shows the slide way with reference number "2". A copy of this Figure with the relevant reference number is attached hereto. In view of this, Applicant submits that no amendments to the drawings are needed and the objection should be withdrawn.

Allowable Claims 23, 25-28

The Examiner indicates that original claims 23, 25-28 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Accordingly, claims 23, 25, and 27 have been amended to be in independent form including all the limitations of the base claim (claim 1) and any intervening claims. The Examiner should note that the phrase "and associated with the slide way of the secondary part" of the base claim has been changed to be "and the slide way has associated therewith the secondary part" in amended claims 23, 25, and 27. This change is solely for purposes of improving clarity, and Applicant understands this change not to alter (and particularly not to narrow) the scope of the resulting claims in any way. Applicant also notes that dependent claims 24, 26, and 28 depend directly from the newly independent claims; as such, Applicant submits that claims 23-28 are now in condition for allowance per the Examiner's comments in the Action.

The Examiner should take special note of the status of claim 24. In the Action, the Examiner appears in one place to reject claim 24 (under §102, see Action ¶13), but

indicates that the claim from which claim 24 depends (claim 23) is allowable (see Action section "Allowable Subject Matter"). Applicant believes that the §102 rejection of claim 24 was in error, and this response assumes that claims 23 and 24 were classified as "allowable."

Minor amendments to Claims 4, 10, 16-17

Applicant amends claims 4, 10, 16-17 herein to add a period at the end of each claim. These amendments correct a minor typographical error, and do not alter (and particularly do not narrow) the scope of the amended claims in any way.

§102/§103 Rejections

The Examiner rejects 1-3, 7-13, 19-20, 22, and 24 under §102 over Bader. The Examiner also rejects claims 4-6, 14-18, and 21 under §103 over Bader in combination with Basic and/or Mosciati. Applicant respectfully traverses these rejections and requests reconsideration thereof.

Bader discloses a linear displaceable precision table, generally referred to in the art as "X-Y tables." The Bader X-Y table includes a number of coils that, in concert, act like a linear motor producing a displacement force acting in the center of the plate being driven. The Bader X-Y table is not a portion of a transport system, but is instead a precision table for positioning some kind of work, for example with respect to a corresponding work station. The movement of the corresponding table is limited to a small range in the X-Y plane. Such an X-Y table is not used for moving some kind of work along a slide way of a production line, but is instead used only, at most, at a given

fixed work station. Further, the putative "vehicle" of Bader (the middle plate 82, per the Examiner) is not capable of being moved along any sort of slide way that extends any substantial distance along a production line independently of the putative base plate (cover plate 83 per the Examiner).

Claim 1 has been amended to explicitly require that the "slide way extend[] along a substantial portion of a production line" and that the "vehicle [be] moveable along said slide way independently of said base plate when not coupled to said base plate." These amendments are supported in the specification and drawings; for instance, see the first full paragraph on page 8. Accordingly, Applicant submits that the amendments to claim 1 are properly supported and do not introduce new matter.

As pointed out above, Bader shows neither that the relevant slide way may extend along a substantial portion of a production line, nor that the putative "vehicle" should be moveable along such a slide way independently of the putative base plate when not coupled to the base plate. Thus, Bader does not show or suggest at least two explicit claim limitations of claim 1. Accordingly, Applicant submits that claim 1 defines patentable subject matter under §§102-103 over Bader. Further, there is nothing in the other cited patents (Basic -- cited only to show synchronous motor, or Mosciati -- cited only to shown display means and communicating device) that cures these omissions from the primary reference Bader. Accordingly, Applicant submits that independent claim 1, and its dependent claims 4-22, define patentable subject matter over all the cited patents, alone or in combination, and therefore requests allowance of the same.

Based on the above, Applicant submits that all currently pending claims define patentable subject matter, and notification to that effect is respectfully requested. If there are any remaining issues, the Examiner is requested to telephone the undersigned to discuss such issues so that they may be expeditiously resolved.

Attached to the end of this response is a summary document with the status of all claims and the text of all pending claims indicated with changes noted per the "prototype" procedures encouraged by the Office. Also enclosed herewith is check #8923 for \$84.00 to cover the required extra independent claim fee due to the amendments. The Office should also note the authorization above to charge any additional fees or charges due in association with this response to Deposit Account No. 18-1167.

Respectfully submitted,
COATS & BENNETT, P.L.L.C.

By:

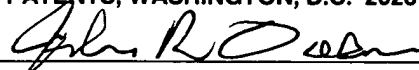


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16 Apr. 2003



VERSION WITH MARKINGS TO SHOW CHANGES MADE PER "PROTOTYPE"

1. (Currently amended) A transport system, ~~including at least one product carrier which is adapted to be moved along a slide way by means of a linear motor drive unit~~ comprising:

a slide way extending along a substantial portion of a production line;

at least one product carrier adapted to be moved along said slide way by means of a linear drive unit;

a primary part functioning as a stator of the linear motor;

a secondary part functioning as a reaction member of the linear motor;

wherein the product carrier is provided with a substantially flat base plate for transporting objects;

wherein that the primary part is arranged on a vehicle and ~~associated with~~ the slide way ~~of~~ has associated therewith the secondary part, said vehicle being adapted to be coupled to the base plate so as to move in unison therewith;

said vehicle moveable along said slide way independently of said base plate when not coupled to said base plate.

2. (cancelled)

3. (cancelled)

4. (currently amended) A transport system according to claim 1, wherein the linear motor drive unit is a synchronous motor.

5. (original) A transport system according to claim 1 wherein the product carrier is adapted to carry a voltage supply unit.
6. (original) A transport system according to claim 5 wherein the voltage supply unit is arranged in the base plate.
7. (original) A transport system according to claim 5 wherein the slide way is formed by a pair of slide rails held in spaced relationship with one another by a plurality of support sections set up substantially vertically on a foundation.
8. (original) A transport system according to claim 7 wherein a cover section is arranged between the support sections.
9. (original) A transport system according to claim 8 wherein the secondary part is arranged on the cover section along the slide way.
10. (currently amended) A transport system according to claim 7 wherein the base plate is guided along the slide rails along its longitudinal edges.
11. (original) A transport system according to claim 7 wherein the base plate has longitudinal edges and wherein said base plate is guided along the slide rails along its lower surface adjacent said longitudinal edges.

12. (original) A transport system according to claim 1 wherein elements are arranged between said base plate and the slide way for guiding the base plate; said elements selected from the group consisting of roller elements, spherical elements, guide elements, and friction-reducing means.

13. (original) A transport system according to claim 1 further including a position determination unit arranged between the product carrier and the slide way.

14. (original) A transport system according to claim 1 wherein the product carrier is provided with onboard electronics which communicate with a central station so as to exchange data and/or instructions therewith.

15. (original) A transport system according to claim 8 wherein bus lines are arranged on the product carrier so as to exchange data and/or instructions with the cover section.

16. (currently amended) A transport system according to claim 1 wherein the product carrier is provided with display means.

17. (currently amended) A transport system according to claim 1 wherein the product carrier is provided with interrogation means.

18. (original) A transport system according to claim 1 wherein the product carrier is provided with input means.

19. (original) A transport system according to claim 1 wherein the vehicle is adapted to be moved along a separate vehicle slide way extending below the base plate.

20. (original) A transport system according to claim 19 wherein the slide way is formed by a pair of slide rails held in spaced relationship with one another by a plurality of support sections set up substantially vertically on a foundation; wherein a cover section is arranged between the support sections; and wherein the vehicle slide way is formed in the cover section.

21. (original) A transport system according to claim 1 further comprising a voltage supply unit arranged in or on the vehicle.

22. (original) A transport system according to claim 20, wherein the vehicle slide way is implemented in the cover section as a substantially U-shaped slide-way groove which is open at the top in the direction of the base plate.

23. (Currently amended) A transport system including at least one product carrier which is adapted to be moved along a slide way by means of a linear motor drive unit comprising:

a primary part;

a secondary part;

wherein the product carrier is provided with a substantially flat base plate for transporting objects;

wherein that the primary part is arranged on a vehicle and the slide way has associated therewith the secondary part, said vehicle being adapted to be coupled to the base plate;

wherein the vehicle is adapted to be moved along a separate vehicle slide way extending below the base plate;

wherein the slide way is formed by a pair of slide rails held in spaced relationship with one another by a plurality of support sections set up substantially vertically on a foundation; wherein a cover section is arranged between the support sections; and wherein the vehicle slide way is formed in the cover section;

wherein the vehicle slide way is implemented in the cover section as a substantially U-shaped slide-way groove which is open at the top in the direction of the base plate; and

~~A transport system according to claim 22 further comprising a releasable coupling means arranged between the vehicle and the base plate.~~

24. (original) A transport system according to claim 23 wherein the slide-way groove is adapted to be covered by a cover having formed therein a slot which extends in the direction of movement of the vehicle and which permits the coupling means to extend therethrough.

25. (Currently amended) A transport system including at least one product carrier which is adapted to be moved along a slide way by means of a linear motor drive unit comprising:

a primary part;

a secondary part;

wherein the product carrier is provided with a substantially flat base plate for transporting objects;

wherein that the primary part is arranged on a vehicle and the slide way has associated therewith the secondary part, said vehicle being adapted to be coupled to the base plate;

wherein the vehicle is adapted to be moved along a separate vehicle slide way extending below the base plate;

wherein the slide way is formed by a pair of slide rails held in spaced relationship with one another by a plurality of support sections set up substantially vertically on a foundation; wherein a cover section is arranged between the support sections; and wherein the vehicle slide way is formed in the cover section;

wherein the vehicle slide way is implemented in the cover section as a substantially U-shaped slide-way groove which is open at the top in the direction of the base plate; and

~~A transport system according to claim 1 further comprising an adjustable rotary plate rotatably supported on the base plate.~~

26. (original) A transport system according to claim 25 further comprising a linear rotary drive unit for rotating the rotary plate disposed between said rotary plate and the base plate.

27. (Currently amended) A transport system including at least one product carrier which is adapted to be moved along a slide way by means of a linear motor drive unit comprising:

a primary part;

a secondary part;

wherein the product carrier is provided with a substantially flat base plate for transporting objects;

wherein that the primary part is arranged on a vehicle and the slide way has associated therewith the secondary part, said vehicle being adapted to be coupled to the base plate;

wherein the vehicle is adapted to be moved along a separate vehicle slide way extending below the base plate;

wherein the slide way is formed by a pair of slide rails held in spaced relationship with one another by a plurality of support sections set up substantially vertically on a foundation; wherein a cover section is arranged between the support sections; and wherein the vehicle slide way is formed in the cover section;

wherein the vehicle slide way is implemented in the cover section as a substantially U-shaped slide-way groove which is open at the top in the direction of the base plate; and

~~A transport system according to claim 1~~ further including a brake means for the product carrier arranged on said slide way at least in the area of work stations along the slide way.

28. (original) A transport system according to claim 27 wherein the vehicle slide way includes at least one return section for returning vehicles, which have been decoupled from the base plate, to a return location.